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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,984	01/11/2006	Robert Czarneck	4857-050551	3230
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THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			EXAMINER STOUT, MICHAEL C	
			ART UNIT 4123	PAPER NUMBER
			MAIL DATE 11/02/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,984

Applicant(s)

CZARNEK, ROBERT

Examiner

Michael C. Stout

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 15 July 2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This action is a first action based on Patent Application Number 10/524,984 filed 19 August 2003 and is a first action based on the merits of the application.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "12" has been used to designate both substrate thickness and the substrate. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.
3. The disclosure is objected to because of the following informalities:

a. Paragraph [0006] uses the term LVDT without previously defining the abbreviation. In the art LVDT is known to be a Linear Variable Differential Transformer, however the record should be made clear as to what the abbreviation represents.

Appropriate correction is required.

4. The use of the trademarks FETA SCAN, INTERNATIONAL BIOMEDICS INC, HUNTLEIGH, COROMETRICS, and HEWLETT-PACKARD has been noted in this application. They should be capitalized and when appropriate should appear with the generic terminology wherever it appears.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "the first side of the substrate" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 2, and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishikura et al. (US Patent 6,341,527 B1).

Regarding Claim 1:

Ishikura discloses a capacitive uterine contraction sensor (a capacitive pressure sensor, see Abstract) comprising: an insulating substrate (substrate 102 made of sapphire, silicon, glass or alumina, see Figure 9 and Column 1 Paragraph 4); a first electrode disposed on one side of the substrate (stationary electrode 105, see Figure 9); and a second electrode positioned on the first side of the substrate (a movable diaphragm electrode comprising a deposited metal 107 and diaphragm 103, is positioned on the first side (top side) of the substrate, see Figure 9) in a spaced relation to the first electrode (the first and second electrode are separated by a space γ , see Figure 9), at least part of the second electrode configured to move toward or away from the first electrode (the diaphragm and deposited metal 107 in Figure 9 moves towards

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the stationary capacitor changing the capacitance of the system, see Column 1 Lines 15-33 and 50-58. (The second electrode in Ishikura is considered to be the diaphragm and the metal electrode as is conventional in the art, which often refers to the second movable electrode as a diaphragm electrode because the metal is bonded the diaphragm creating a single piece).

Regarding Claim 2:

Ishikura discloses the sensor of claim 1 as set forth above, further comprising a conductive standoff sandwiched between the substrate and the second electrode (an extraction electrode is positioned between the substrate 102 and upper electrode, see Figure 9) for maintaining the second electrode in spaced relation to the first electrode, the conductive standoff electrically coupled to the second electrode (the second electrode is connected to the individual extraction electrodes represented by 104 that extend through the lower wafer 102, see Column 1 Paragraph 5 and Figure 9) and electrically isolated from the first electrode (each metal electrode component 105, 107, and 109 connects to a separate reference electrode which allows for a capacitance across the electrodes which is electrically detected to measure a pressure change, see Column 1 Lines 50-58, capacitance is a function of voltage and if the elements are not electrically isolated there is no voltage difference between the electrodes).

Regarding Claim 3:

Ishikura discloses the sensor of claim 1 as set forth above, wherein the second electrode comprises a spring mechanism (the upper wafer 103 behaves like a diaphragm, Column 1 Lines 35-37 and see Figure 9), wherein the spring mechanism is electrically isolated from the first electrode (the two non-conducting wafers are connected together, see Figure 9), the second electrode maintained in spaced relation to the first electrode (see Figure 9). (The upper wafer component of the second electrode is a diaphragm (103), which is a spring mechanism that when pressure is applied flexes thereby changing the distance between the electrodes and when pressure is removed returns to its regular position, see Column 1 Paragraphs 5 and 6).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikura et al. (US Patent 6,341,527 B1) in view of Kodama (US 2003/0187370 A1).

Regarding Claim 5:

Ishikura et al. discloses the sensor of claim 1 as set forth above, but fails to teach the device further comprising a load transfer button positioned on a side of the second electrode facing away from the first electrode.

Kodama teaches a sensing device for detecting uterine contractions comprising a load transfer button positioned above the sensing element (force collector 24, see [0024] and Figure 1.

Both Ishikura et al. and Kodama teach sensing devices. Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device taught by Ishikura to include a load transfer button as taught in Kodama in order to exert pressure on the sensor in response to uterine muscle tone changes, see Kodama [0025].

Regarding Claim 8:

Ishikura discloses the sensor of claim 1 as set forth above but fails to teach the device further comprising a means for securing the capacitive uterine contraction sensor against an abdomen.

Kodama teaches a sensing device comprising a means for securing (a strap 22, see Figure 3) the capacitive uterine contraction sensor against an abdomen.

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Both Ishikura and Kodama teach sensing devices. Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device taught by Ishikura to include a strap 22 as taught in Kodama in order to press the device against the abdominal wall, see Kodama [0024].

13. Claims 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikura et al. (US Patent 6,341,527 B1) in view of Satou et al. (US 6,631, 645 B1).

Regarding Claims 6 and 7:

Ishikura discloses the sensor of claim 1 as set forth above, where electronic circuitry is used for determining a capacitance of a capacitor formed by the spaced relation of the first and second electrodes, see Column 1 Paragraph 6. However Ishikura fails to teach the sensor comprising electronic circuitry for determining a capacitance of a capacitor formed by the spaced relation of the first and second electrodes.

Satou teaches a sensor comprising electronic circuitry for determining a capacitance of a capacitor formed by the spaced relation of a first and second electrodes which reduces temperature error commonly found in pressure sensors. (Figure 4 teaches a circuit for converting the capacitance to a output voltage and Figure 17 shows a sensor with circuitry integrated on a chip where the circuitry includes an

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oscillator, an output adjusting circuit, and electrode pads (means for communicating with an external unit), see Column 7 Lines 22-32 and Column Lines 59-67).

Both Ishikura and Satou teach capacitive pressure sensors. Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device taught by Ishikura to include electronic circuitry for determining a capacitance of the capacitor as taught in Satou in order to reduce temperature and nonlinear error generally found in pressure gauges, see Column 7 Lines 15-20.

Regarding Claim 9:

Ishikura discloses the sensor of claim 1 as set forth above, but fails to teach the sensor further comprising a dielectric disposed between the first electrode and the second electrode.

Satou teaches a sensor comprising a dielectric disposed between a first electrode and second electrode (a dielectric member 20 inserted in the space 7 between two electrodes) in order to adjust the capacitance and thereby adjust the parameters of the sensor.

Both Ishikura and Satou teach capacitive pressure sensors. Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device taught by Ishikura to include a dielectric between the first and second electrodes as taught in Satou in order to adjust the capacitance and thereby adjust the parameters of the sensor, see Satou Column 6 Lines 15-34.

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14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikura et al. (US Patent 6,341,527 B1) in view of Orkin et al. (US Patent 5,289,827).

Regarding Claim 8:

Ishikura discloses the sensor of claim 1 as set forth above but fails to teach the device further comprising a means for securing the capacitive uterine contraction sensor against an abdomen.

Orkin teaches a sensing device comprising a means for securing (a strap 102, see Figure 6) the capacitive uterine contraction sensor against an abdomen.

Both Ishikura and Kodama teach sensing devices. Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the device taught by Ishikura to include a strap as taught in Orkin in order to attach the sensor to the wearer, see Orkin Column 5 Lines 37-45.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikura et al. US Patent 6,341,527 B1 in view of Hegner et al.

Ishikura discloses the sensor of claim 1 as set forth above, further comprising a conductive sheet (thin flat area) on the first side of the substrate and conductive bulges on the second side of the substrate. Ishikura fails to teach a conductive sheet on each side of the substrate, wherein: the conductive sheets are electrically connected; the first electrode is electrically isolated from the conductive sheet on the one side of the

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substrate; and the second electrode is electrically connected to the conductive sheet on the one side of the substrate.

Hegner teaches a sensor comprising conductive sheets on both sides of a substrate (see Figures 1 and 2), wherein: the conductive sheets (17 and 27, Figure 1) are electrically connected, the first electrode (20, Figure 1) is electrically isolated from the conductive sheet (27) and the second electrode which forms a conductive sheet (17) is electrically connected to the sheet (27), see Figure 1.

Because both Ishikura and Hegner teach capacitive sensors it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the bulge extraction electrode contacts taught by Ishikura with flat sheet contacts taught by Hegner in order to achieve the predictable result of providing electrical contacts.

Allowable Subject Matter

16. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter: Claim 4 comprises a second electrode configured to move toward or away from the first electrode, connected to a conductive standoff and electrically isolated from a first electrode, wherein the second electrode comprises a spring mechanism and includes a plurality of channels in a body.

Conclusion

18. The prior art made of record and is considered pertinent to applicant's disclosure.

See Form 892.

The Examiner notes that search results cited in the international search report are relevant to the case and has therefore included the references in the 892 form.

Contact Info

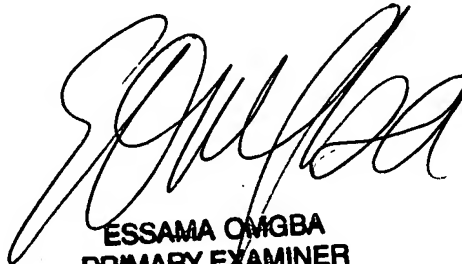
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Stout whose telephone number is 571-270-5045. The examiner can normally be reached on M-F 7:30-5:00 Alternate (Fridays).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MCS



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